

# PATENT ABSTRACTS OF JAPAN

(11)Publication number : 11-103135

(43)Date of publication of application : 13.04.1999

51)Int.Cl.

H01S 3/18  
C30B 29/38  
H01L 21/205  
H01L 33/00

21)Application number : 10-005682

(71)Applicant : MITSUBISHI CABLE IND LTD

22)Date of filing : 14.01.1998

(72)Inventor : OKAGAWA HIROAKI

OUCHI YOICHIRO

MIYASHITA KEIJI

TADATOMO KAZUYUKI

30)Priority

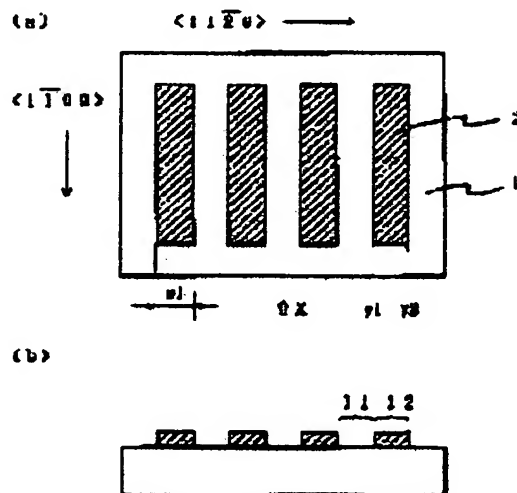
Priority number : 09204915 Priority date : 30.07.1997 Priority country : JP

## 54) BOARD FOR GALLIUM NITRIDE CRYSTAL GROWTH, AND ITS APPLICATION

57)Abstract:

PROBLEM TO BE SOLVED: To provide a substrate for GaN crystal growth with which a high quality GaN substrate which is thick and moreover does not contain defects such as a transposition, etc., can be obtained, and the manufacture of a GaN semiconductor element using it.

SOLUTION: A mask region 12 covered with a mask layer 2 and nonmask region 11, where the base substrate face is exposed, are made at the face of a base substrate 1. A material where crystals will not grow substantially from its own surface is used for the mask layer. In the case of making the upper part of the mask region into low transposition, the mask region is made in such form that at least the outline includes two straight parallel lines y1 and y2 which extend in the direction  $\langle 1-100 \rangle$ . Furthermore, a width w1 of two parallel straight lines is made smaller than the width of a GaN semiconductor element, and moreover is made larger than the width of the active part of the element. In this case for, dividing the GaN semiconductor element into separate pieces, it is preferable to make use of a nonmask region.



LEGAL STATUS

BEST AVAILABLE COPY

[Date of request for examination] 26.10.2001

[Date of sending the examiner's decision of rejection]

[Kind of final disposal of application other than the examiner's decision of rejection or application converted registration]

[Date of final disposal for application]

[Patent number]

[Date of registration]

[Number of appeal against examiner's decision of rejection]

[Date of requesting appeal against examiner's decision of rejection]

[Date of extinction of right]

Copyright (C); 1998,2003 Japan Patent Office

**BEST AVAILABLE COPY**